

1. A method of cryptographic encryption, comprising the steps of:

a) selecting, by a recipient, a modulus p from a group of equations consisting of:

$$p=(2^{dk}-2^{ck}-1)/r,$$

where $0<2c\leq d$, where $r \neq 1$, and where $GCD(c,d)=1$;

$$p=(2^{dk}-2^{(d-1)k}+2^{(d-2)k}-\dots-2^k+1)/r,$$

where d is even, and where k is not equal to 2 (mod 4);

$$p=(2^{dk}-2^{ck}-1)/r,$$

where $3d<6c<4d$, and where $GCD(c,d)=1$;

$$p=(2^{dk}-2^{ck}+1)/r,$$

where $0<2c\leq d$, where $r \neq 1$, and where $GCD(c,d)=1$; and

$$p=(2^{4k}-2^{3k}+2^{2k}+1)/r;$$

b) selecting, by the recipient, a curve E and an order q ;

c) selecting, by the recipient, a base point $G=(G_x, G_y)$ on the elliptic curve E ;

d) generating, by the recipient, a private integer w ;

- e) generating, by the recipient, a public key W , where $W=wG$;
- f) distributing, by the recipient, p , E , q , G , and W in an authentic manner;
- g) retrieving, by a sender, the recipient's public key W ;
- h) generating, by the sender, a private integer r ;
- i) generating, by the sender, $R=rG$ using the form of recipient's modulus p , and where G is recipient's basepoint;
- j) combining, by the sender, r , W , and M using the form of the recipient's modulus p to form ciphertext C ; and
- k) sending, by the sender, (R,C) to the recipient.

2. The method of claim 1, further including the steps of:

- a) retrieving, by the recipient, the recipient's private key w ;
- b) receiving, by the recipient, (R,C) from the sender; and
- c) combining, by the recipient, R , w , and C using the form of the recipient's modulus p to recover M .